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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,045	07/13/2005	Hendrik Wermter	PP/15-22821/A/CGM 520/PCT	8680
324	7590	05/06/2009	EXAMINER	
JoAnn Villamizar Ciba Corporation/Patent Department 540 White Plains Road P.O. Box 2005 Tarrytown, NY 10591			WYROZEBSKI LEE, KATARZYNA I	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			05/06/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/542,045	Applicant(s) WERMTER ET AL.	
	Examiner Katarzyna Wyrozebski	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

In view of applicant's request for continued prosecution of the application as well as 132 affidavit disclosing unexpected results have all been considered. The office action cited therein is non-final. Claims 1, 2, 4-8, 11-19 are pending, claims 3, 9, 10 and 20 are cancelled.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 2, 4-8, 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over FUMITOSHI (JP 04-68133) in view of TON THAT (US 7,220,484).

The discussion of the disclosure of the prior art of FUMITOSHI and TON THAT from paragraph 2 of the office action dated 11/19/2008 is incorporated here by reference.

3. Claims 1, 2, 4-8, 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over TON THAT (US 7,220,484) in view of FUMITOSHI (JP 04-68133).

The discussion of the disclosure of the prior art of TON THAT from paragraph 2 of the office action dated 11/19/2008 is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of TON THAT is combination of stabilizers, which are in its generic form enabled for use by the TON THAT.

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The discussion of the disclosure of the prior art of FUMITOSHI from paragraph 2 of the office action dated 11/19/2008 is incorporated here by reference.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art to utilize stabilizers for polyolefin composition as disclosed in FUMITOSHI in the teachings of TON THAT for following reasons:

a) The prior art of TON THAT also discloses polyolefin composition, therefore stabilizers will also have the same effect on the polyolefin of TON THAT as on polyolefin of FUMITOSHI.

b) Each stabilizer is utilized for specific purpose, as such the composition will have also improved thermal oxidation stability by use of epoxy containing compound. Using phenolic and HALS stabilizers further provides synergistic effect that would inhibit yellowing of the composition due to presence of epoxy compounds [0003-0004].

4. Claims 1, 2, 4-8, 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHIN (WO 03/002651) in view of FUMITOSHI (JP 04-68133).

The prior art of CHIN discloses nanocomposite composition comprising polymer and stabilizing amount of synergistic mixture of various stabilizers.

Specifically polyolefins are disclosed pages 2-4 of the prior art as item 1-3. Polypropylene and polyethylene being most preferred embodiment (page 9).

Nanofillers are organically modified clays or phyllosilicates that include bentonite, montmorillonites, beidelite and the like (page 9). The average diameter is 20-30,000 and thickness of the platelet is less than 2 nm. CLOISITE 30B, which is montmorillonite clay

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organically modified with tallow ammonium compound is listed as one specific example.

Nanofillers are utilized in amount of 0.5-10 % by weight of the composition.

Hindered amine (HALS) stabilizers are listed beginning page 10. Phenolic antioxidants are listed beginning page 22. The amount of stabilizers is in a range of 0.01-10 wt % (page 23). Further phenolic antioxidants are listed beginning page 23, which compounds satisfy the requirements of instant claim 8 as well. Chemical formulas on page 33 of the prior art also reads on definition of claims 7 of the instant invention.

The difference between the present invention and the teachings of CHIN is use of epoxy ether compounds as part of the stabilizing system.

The discussion of the disclosure of the prior art of FUMITOSHI from paragraph 2 of the office action dated 11/19/2008 is incorporated here by reference.

Just like with CHIN, FUMITOSHI teaches synergistic combination of stabilizers, which comprise epoxy ether compound, wherein the combination is shown to efficiently stabilize polyolefins.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize epoxy ether compounds of FUMITOSHI in the composition of CHIN and thereby obtain the claimed invention for following reasons:

- a) Both disclosures are preoccupied with stabilizing polyolefins.
- b) The phenolic antioxidants and HALS of CHIN are also the same phenolic antioxidants and HALS of FUMITOSHI.

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c) The addition of epoxy ether compound of FUMITOSHI into the combination of phenolic antioxidant and HALS does not adversely affect synergistic effect of these stabilizers.

As a result, addition of epoxy compound would still provide stabilized polyolefin composition.

Affidavit provided by the applicants discloses differences between untreated filler in a stabilized polyolefin composition and treated filler in a stabilized polyolefin composition. In both cases filler is either treated or untreated clay. The applicants specifically disclose the difference in OIT time between the two compositions. Although very detailed, the affidavit is not considered as commensurate with scope of either claim or the grounds of rejection.

The grounds of rejection as applied by the examiner in the last office action (11/19/2008) combines teachings of FUMITOSHI and TONTHAT. FUMITOSHI discloses instant composition, wherein phyllosilicate filler is mica. Instant independent claims as well as dependent claim disclose mica as suitable filler phyllosilicate filler. In addition, claims also do not require any modification to be done to mica at all, so treatment of the phyllosilicate filler is considered an option. For the purpose of claim 1, the examiner relied on teachings of TONTHAT to provide particle size, which is to be in nanometers. In fact modification of phyllosilicate is not required by any dependent claim.

In their response applicants arguments were presented in light of the affidavit, specifically the modification of phyllosilicate. The applicants argued that the disadvantage of ammonium

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compounds is that they are thermally unstable and result in poor processing stability and in turn mechanical properties are adversely affected (page 10 of the response).

Well attorney's arguments are not entirely correct. Thermal stability of the ammonium depends on the specific ammonium compound utilized in the composition, and thermal instability is not reflective of all ammonium compounds. This issue has been overcome by TON THAT, since the operating temperatures utilized to make nanocomposite are approximately 180°C (see examples). The examiner hereby makes of record following disclosures to further support examiner's position:

US 7,371,793 to GONG

US 7,084,197 to CHIN

Or any disclosures to Tie Lan of Nanocor. One of ordinary skill in the art would know that the particular ammonium compounds utilized specifically for making clay nanocomposite have decomposition temperature high enough such that they can withstand melt temperatures of the polymeric component. Specifically the decomposition temperature of the tallow ammonium compound utilized to modify disclosed by CLOISITE trademarks in the instant invention is above 186°C.

The modification of the clay component, especially for the polyolefins filler is conducted via cationic exchange, because clays are organophobic by nature and will not be compatible with polymers. Cationic exchange between ammonium compounds and naturally occurring cations within clay platelets renders clays organophilic and therefore more compatible with polymeric matrix.

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Applicant's arguments that the composition utilizing well known and established stabilizers and antioxidants has improved thermal stability and reduced discoloration is not considered as unexpected. Thermal stability and reduced discoloration is exactly what these stabilizers have already been utilized for. Such is even documented in the prior art of FUMIKOSHI as applied against instant claims, as FUMIKOSHI resolved that same issue, directed to stabilization of polyolefins (including epoxide compound).

OIT measurements as provided by the applicants cannot be utilized to compare against prior art of FUMIKOSHI, since prior art does not disclose OIT measurements. FUMIKOSHI teaches hue values in units of YI (yellowness index) and brittleness of the composition. Therefore, since according to the applicant's statement in their response, if the improvement depends on the presence of epoxy resin, then prior art of FUMIKOSHI will be expected to provide the same result, since it contains the same epoxy compound with the same type of stabilizers, which stabilization is not filler dependent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 8:30 AM-2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Katarzyna Wyrozebski/
Primary Examiner, Art Unit 1796
May 1, 2009